

Trad / Multi-Pitch Rock Climbing Technical Leader Standards – NoCO CMC

December 2024

Introduction

The skills and guidelines in this document are intended as standards for the skills needed to be a successful CMC Technical Trip Leader for traditional and multi-pitch climbing trips. These skills are in addition to those outlined in the CMC Trip Leader Manual. Club policy will determine any prior certifications necessary to lead trips.

Scope and Terrain

Traditional and Multi-pitch Rock Climbing trips occur on a variety of rock types. These trips may consist of single pitch climbs, multi-pitch climbs, or top-roped climbs. These climbs will typically require the placement of removable protection or have long, difficult to protect run-outs. Climbs are primarily fifth class but may contain short sections of third and/or fourth class terrain.

Training and Experience

The NoCo CMC recognizes that there are many avenues to climbing education, such as informal mentorship, professional instruction, or volunteer peer-based instruction (via organizations like the CMC, Mountaineers, Mazamas, etc.). In particular, candidates for a Trad / Multi-pitch Rock Climbing Trip Leader are encouraged to consider taking the CMC Traditional Lead Climbing School and Self-Rescue II (or equivalent) currently offered in Golden. However, candidates that have not taken those courses and that (1) have the experience outlined below and (2) can display that they meet the activity standards through the procedures outlined below are encouraged to become Technical Trip Leaders.

- Candidates must have at least one year of multi-pitch traditional climbing experience in a variety of terrain.
- Candidates must be confident leading traditional climbs up to 5.4 at the time of assessment.

- Candidates are expected to have led or shared lead on approximately thirty fifth-class traditional climbs with a substantial number of these being multi-pitch climbs.
- While it is generally expected that candidates have experience on a substantial number of climbs at the 5.6 grade or higher and will be confident in leading at that level, candidates who only have experience at the 5.4 level are encouraged to apply and continue to develop their skills.

Assessment. Candidates will be evaluated by experienced CMC mentors according to these standards. The assessment is three-fold:

(1) The Technical Leader Committee (TTL) will review a resume that outlines the climber's experience in leading and co-leading traditional and multi-pitch rock climbs.

(2) Candidates take an assessment that evaluates their understanding of these standards. This assessment may be in a written format or in an oral format, at the discretion of the TTL.

(3) Candidates display their knowledge and skills in the field on a Technical Leader-in-Training Day.

After completion of steps 1-3, the TLC will review the entire assessment and formulate a recommendation on certification to forward to the NoCo Group Council. The recommendation from the TLC, if positive, will include a suggested upper limit on climbing grades on trips led by the TTL. The NoCo Group Council will have final approval for the TTL.

Skills and Knowledge

Trad / Multi-Pitch Technical Trip Leaders must demonstrate proficiency in executing and applying the skills and knowledge listed below.

Climbing Movement. When climbing and placing protection, Technical Trip Leaders must be fluid, effective, and efficient on onsight leads of routes up to 5.4 in difficulty. They must be versed in climbing on a variety of rock types and features.

Equipment. Technical Trip Leaders must be knowledgeable about the variety of tools available to accomplish any relevant task, and the advantages and disadvantages of each. They must appreciate the design, intended uses, and practical applications of each tool, and make selections and recommendations based on that knowledge and equipment ratings. Equipment that they are familiar with includes:

- fixed anchors (bolts, hangers, rappel rings, webbing, etc.)

- removable protection (cams, stoppers, tricams, etc.)
- ropes (static and dynamic)
- harnesses
- personal protective equipment (helmets, gloves, etc.)
- footwear
- hard goods (belay/rappel devices, carabiners, etc.)
- soft goods (slings, cord, tethers, etc.)

Technical Trip Leaders must also display an understanding of non-climbing-specific outdoor equipment used on climbing outings. They should, for example, choose an appropriate pack for any given excursion. The contents of this pack will vary based on the venue but may include emergency supplies (first aid kit, headlamp, etc.), human waste disposal kit, communication devices, navigational aids, additional food and layers, and other items.

Technical Trip Leaders must ensure equipment is reasonably suitable for its intended use.

Rope Management, Knots, and Hitches. Technical Trip Leaders must proficiently manage the rope with single and double rope systems, including when using caterpillar, parallel, or end-roping techniques. They must effectively manage the rope during transitions by keeping organized workspaces and managing the ends of the rope. Belay systems they operate should manage slack appropriately to secure climbers and mitigate fall consequences.

Technical Trip Leaders have a mastery of the knots and hitches most prevalent in multi-pitch climbing:

| Knots | Hitches |
|-----------------------------|-----------|
| Overhand on a Bight | Clove |
| BHK | Autoblock |
| Flat Overhand | Prusik |
| Figure-Eight Follow-Through | Klenheist |
| Figure-Eight on a Bight | Basket |
| Bowline | Girth |
| Double Fisherman's | Munter |
| Barrel | |
| Mule | |
| Water | |

Protection Systems and Anchor Building. Technical Trip Leaders must be versed in selecting, placing, and evaluating a variety of protection types (See “Equipment”), including the terrain itself, in a wide variety of climbing environments. They must understand the general principles behind an item’s construction, functionality, and common mechanisms of failure. For example, they always use multi-point anchor systems with anchor points equalized.

Technical Trip Leaders must have a practical understanding of protection principles, the nature of forces affecting the climbing system, and techniques for building appropriate systems and safeguarding the integrity of those systems, including the use of double checks. Technical Trip Leaders should appreciate how a variety of factors from rope drag and user error to weather conditions and rock type can affect the functionality of equipment and systems. They must be prepared to anticipate and manage those possible factors.

Technical Trip Leaders should construct strong, secure, and simple anchors. They should adjust the construction of their anchors based on their knowledge of the many factors affecting climbing systems and available equipment. Additionally, candidates must be versed in building, inspecting, and replacing improvised anchors, including “tat” and “bail” anchors.

Belaying and Spotting. Technical Trip Leaders must belay in a fundamentally sound manner. The principles of fundamentally sound belay mechanics are:

1. A brake hand must be maintained at all times.
2. Hand transitions should happen in the position of maximum friction.
3. The hands and limbs should be positioned ergonomically.

This is true whether they are belaying with terrain, a manual-, or assisted-braking device, from above or below, and using one or two ropes. Technical Trip Leaders should generally employ direct belays in fifth class terrain for the follower(s) and can identify appropriate situations in which to do so for the leader. They can belay and lower with plaque devices, such as a Black Diamond ATC Guide Belay/Rappel Device, when the device is unweighted or weighted, and when it is loaded with one or two ropes. They must understand the need for vigilance, positioning, and the ability to anticipate changing belay needs.

Technical Descent. Technical Trip Leaders must be knowledgeable about a variety of rappelling, lowering, and belayed downclimbing set-ups. They must understand the use of back-ups, and should employ efficient transition strategies on multiple rappels. They must demonstrate an ability to assess and use relevant strategies based on the situation, including extensions, friction hitches, and back-up belays.

Rescue and Assistance Skills. Technical Trip Leaders must be familiar with the following skills related to trad and multi-pitch climbing:

- Load transfer
- Improvised systems for belay, rappel, and ascent
- Hauling (i.e. creating mechanical advantages sufficient for the task)
- Tandem rappelling, including transitions
- Use of the plaquette in emergency situations
- First aid and emergency medical care, per club policy
- communication techniques that accommodate a variety of environments and situations, including verbal and non-verbal strategies.

Objective and Terrain Identification. Technical Trip Leaders must be adept at identifying appropriate objectives and terrain, including third and fourth class terrain. They must also be aware of and manage environmental hazards, including elevation, lightning, water crossings, rock fall, exposure to elements and precipices, and flora and fauna hazards. Technical Trip Leaders' familiarity with a variety of route selection tools (e.g. online resources, guidebooks, and peer input) should enable them to find desired climbs and/or undocumented but climbable features.

General Policies for Technical Trip Leaders. All trips led by the TTL must be within a reasonable range of the conditions assessed in the LIT for TTL approval, including: grade, season, anticipated weather and terrain conditions, etc.

Technical Trip Leaders must also possess the fortitude to completely call off a climb (on location) should any of the terrain, environmental and/or climber conditions warrant it.

Staying Current with Skills and Knowledge.

The expectation is that technical trip leaders will maintain their skills and will only lead climbs within their competency level. Furthermore, the expectation is that technical trip leaders will stay current with best practices in climbing as knowledge and equipment evolve.